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Understanding kindergarten teacher self-efficacy for providing reading instruction to students with reading difficulties

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ABSTRACT

Teacher self-efficacy to teach reading is positively associated with teacher effort and persistence as well as student performance. To provide effective reading instruction that meets the needs of students with reading difficulties, theoretical and empirical evidence suggests teachers need to believe they have the necessary knowledge and skills to do so. The purpose of this study was to explore kindergarten teachers' self-efficacy beliefs related to providing reading instruction to students with reading difficulties. We also aimed to better understand the barriers to and facilitators of kindergarten teachers' reading self-efficacy beliefs. Fifteen kindergarten teachers participated in semi-structured interviews and completed surveys related to sense of efficacy and knowledge for teaching reading. Interviews were analysed using a thematic analytical approach. Findings indicated that kindergarten teachers experience a moderate to high level of self-efficacy in providing reading instruction to students with reading difficulties. However, several themes that emerged from the data focused on barriers to, rather than facilitators of, teacher self-efficacy. Implications are discussed, including ways to cultivate stronger self-efficacy beliefs related to reading instruction for students with reading difficulties.

Introduction

In the United States, general education teachers are expected to differentiate their reading instruction to meet the diverse needs of students in their classrooms (Tomlinson et al., 2003). Given that students enter kindergarten with widely varying foundational reading knowledge and skills (Burns et al., 1999), it may be a particularly challenging task for kindergarten teachers to differentiate instruction to meet their students' needs. It is critical that they do so, however. The elementary grades represent a unique window of opportunity to prevent reading risk: For students who demonstrate evidence of difficulties learning to read, early supports tend to be more effective than later supports (Al Otaiba et al., 2009). And the consequences of failing to address students' reading difficulties (RDs) are serious: Students with significant RDs are likely to struggle academically throughout their school

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careers; there is a higher probability they will drop out of school and a lower probability they will enrol in postsecondary education programs (Boscardin et al., 2008; Daniel et al., 2006; Hernandez, 2011; Horn & Berktold, 1999). They are also at greater risk for symptoms associated with anxiety, depression, and behaviour disorders (Dahle & Knivsberg, 2014; Jordan et al., 2014; Mugnaini et al., 2009; Willcutt et al., 2010).

Meta-analyses indicate that effective instruction for young students with RDs differs from instruction for typically developing students in important ways. First, it is more explicit and systematic (Gersten et al., 2009; Scammacca et al., 2007; Vaughn et al., 2012). It includes teacher explanation and modelling as well as guided practice that offers frequent opportunities for students to respond and receive feedback. It also includes instructional scaffolding that can be gradually reduced to support students' acquisition of new skills and knowledge (Gersten et al., 2009; Vaughn et al., 2012).

Previous research has focused on investigating teachers' self-efficacy for providing reading instruction to elementary students (e.g., Guo et al., 2012; Timperley & Phillips, 2003; Varghese et al., 2016). However, there is limited research exploring teachers' self-efficacy beliefs for teaching reading to students with RDs (e.g., Bos et al., 2001; Washburn et al., 2011). Further, little or no research exists exploring barriers to and facilitators of teachers' self-efficacy to teach students with RDs.

Theoretical background

The construct of self-efficacy

In the 1970s, the Rand Corporation conducted studies of reading instruction in search of variables that would explain differences in the effectiveness of teachers (Armor et al., 1976). They concluded that teacher self-efficacy is positively related to reading achievement among students; students taught by teachers who believed that they could impact students' motivation and learning tended to have higher reading achievement than students whose teachers believed there was little they could do considering the barriers to learning posed by the environment. These results led to increased interest in teachers' self-efficacy beliefs.

Bandura (1977, 1986, Bandura, 1997) further developed the concept of self-efficacy belief via his Social Cognitive Theory. He defined self-efficacy as an assessment of one's capabilities to attain a desired level of performance in a given endeavour. Bandura posited that individuals' behaviours are influenced by their perceived capabilities, or self-efficacy, to perform those behaviours. He proposed that an individual's self-efficacy influences one's motivation to act, the effort one puts forth in the endeavour, the persistence of that effort, and resilience in the face of setbacks. He further speculated that self-efficacy beliefs (not one's actual abilities) have the most powerful impact on human behaviour and that there is a cyclical relationship between self-efficacy beliefs and behaviour. Thus, the more confident one is in their abilities, the more likely they are to succeed, which provides them with experiences that further develop their self-efficacy.

Teacher self-efficacy, teaching quality, and student achievement

In the teaching context, self-efficacy is the extent to which teachers believe they can influence a student's performance through their instruction (Khan et al., 2015;

Tschannen-Moran & Johnson, 2011). Bandura's (1977, 1986, Bandura, 1997) Social Cognitive Theory suggests that to provide effective early reading instruction, teachers need to believe they have the necessary knowledge and skills to do so. When a teacher believes that they have the capacity to provide effective reading instruction, it increases their ability to engage in behaviours that are in alignment with that goal, at the expected level of competence. Empirical research supports this argument, demonstrating positive associations between reading teachers' self-efficacy beliefs and the quality of reading instruction they provide, as well as the reading achievement of students in their classrooms (Guo et al., 2012; Maloch et al., 2003; Timperley & Phillips, 2003; Varghese et al., 2016).

Unfortunately, in survey research examining teachers perceived self-efficacy, teachers often do not feel prepared to provide instruction to students with RDs (Bos et al., 2001; Washburn et al., 2011). For example, Bos et al. (2001) reported that in-service teachers' perceived preparedness to teach reading to typically developing students fell in the moderate range ($M = 2.6$ on a scale of 1–4), whereas they felt slightly less prepared to teach students with RDs ($M = 2.3$). Similarly, Washburn et al. (2011) reported that pre-service teachers reported their perceived ability for teaching reading to typically developing students was in the moderate range ($M = 2.13$ on scale of 1–4) but was lower for teaching students with RDs ($M = 1.68$).

Factors that influence self-efficacy for teaching reading

There are several factors that influence teacher self-efficacy, and in turn impact teaching quality and student achievement. One such factor is teacher training. For example, Maloch et al. (2003) explored self-efficacy differences in relation to the type of training in reading instructional methods that pre-service teachers received. They discovered that the type of preparation program teachers attended influenced their self-efficacy regarding their instructional understandings, beliefs, and decision making. In particular, teachers who graduated from reading-specific programs demonstrated higher quality teaching, including focusing on assessing and meeting students' needs as well as seeking ongoing support for and development of their own learning. In contrast, teachers who graduated from general education programs tended to make decisions about teaching and learning in relation to external factors, such as available materials, mandates, or the requests of administrators.

Additionally, Timperley and Phillips (2003) examined the ways in which teachers' expectations of student reading achievement changed in response to professional development (PD) focused on evidence-based reading instruction. At the beginning of the study, teachers reported low expectations and a low level of self-efficacy. After six months of PD, teachers' self-efficacy beliefs increased significantly and teachers' expectations increased, both in terms of their own reading instructional quality and their students' reading achievement. Notably, the reading achievement of students whose teachers participated in the PD was significantly higher than for the comparison group of students enrolled in classrooms for which teachers did not participate in the PD.

The results of previous research on teacher self-efficacy also suggest that self-efficacy is influenced by factors in teachers' immediate environments (e.g., their classrooms, the students they teach), by the institutions or organisations they work within (e.g., schools,

districts; Fackler et al., 2021), and by specific factors in their school environment, including climate and principal leadership (Hu et al., 2019). For example, one study reported an association between student achievement and teacher self-efficacy, with teachers feeling more efficacious teaching students without RDs (Fackler & Malmberg, 2016).

Teacher knowledge about reading instruction is another factor that influences self-efficacy as the two constructs seem to be closely correlated (Spear-Swerling et al., 2005). Interestingly, and particularly relevant for this study, prior studies show that teachers often report higher self-efficacy beliefs than their demonstrated knowledge would seem to warrant (Cohen et al., 2017; Cunningham et al., 2004; Spear-Swerling et al., 2005). For example, Cohen et al. (2017) investigated K-3 teachers perceived and actual knowledge of the phonological, orthographic, and morphological structure of English. For each of 30 items, teachers first answered the question then rated on a scale of 1–5 how confident they felt that they had provided the correct answer. Across items and teachers, mean confidence ratings were moderately high, despite teachers answering fewer than 70% of items correctly. Notably, Tschannen-Moran and Johnson (2011) speculated that, to at least some extent, 'over-estimating one's actual abilities may be useful if it leads to greater effort, persistence, and resilience, and because it is difficult for a person to invest fully in an activity while fighting self-doubt' (p. 753).

Current study

Overall, research shows that teacher self-efficacy for teaching reading is associated with improved instructional quality and student performance (Guo et al., 2012; Maloch et al., 2003; Timperley & Phillips, 2003; Varghese et al., 2016). However, teacher survey data suggests that teachers have lower self-efficacy for providing instruction to students with RDs (Bos et al., 2001; Washburn et al., 2011). The purpose of this study was to extend the existing body of knowledge related to teacher self-efficacy for teaching reading by administering surveys and conducting semi-structured interviews with teachers. Interviews allowed us the flexibility to explore teachers' self-efficacy beliefs when providing reading instruction to their students with RDs. In particular, during these interviews, we were able to have conversations with teachers that allowed us to better understand the barriers to and facilitators of their self-efficacy beliefs, which also allowed us to gain insight into ways to cultivate stronger self-efficacy beliefs related to providing reading instruction for students with RDs. The use of the surveys allowed us to further explore our findings related to teachers' self-efficacy. In particular, surveys enabled us to examine the relations between teachers' verbalised self-efficacy beliefs related to providing reading instruction to students with reading difficulties and their sense of efficacy and knowledge for teaching reading. We asked the following research questions:

(1) How do kindergarten teachers describe their self-efficacy in providing reading instruction to students with RDs?
   a. How does self-efficacy for teaching students with RDs relate to ratings of sense of efficacy for providing literacy instruction generally?
   b. How does self-efficacy for teaching students with RDs relate to knowledge to teach reading?
(2) What factors do kindergarten teachers perceive as barriers to and facilitators of self-efficacy in teaching students with RDs?

Methods

Study context and participants

The participants included in the present study were participating in a study piloting a kindergarten reading intervention program for students with RDs during the 2021–2022 academic year. The pilot study was conducted in five schools located in an urban metropolitan area in the southern region of the United States. Pilot study procedures were approved by the local Institutional Review Board (IRB#: HSC-MS-18-0392) and required written teacher consent, written parent consent, and verbal student assent. Kindergarten was chosen as the population of interest for the pilot study because research shows that reading interventions are more effective at remediating RDs when provided earlier (i.e., in kindergarten or first grade) rather than later (Lovett et al., 2017; O'Connor et al., 2014).

In the pilot study, RDs were operationalised as scores below a priori benchmarks on two measures of foundational reading skills, including a raw score of ≤ 17 on the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) Letter Naming Fluency subtest and a raw score of ≤ 6 on the Comprehensive Test of Phonological Processing (CTOPP) Sound Matching subtest (i.e., students scored below the 40th percentile on both of these two measures). In participating teachers' classrooms where all students were screened ($n = 8$), 47% of students demonstrated RDs. Overall, 92 students were identified and consented to participate in the pilot study. Participating students were primarily Hispanic (53%) and African American (37%); 85% of students were economically disadvantaged (i.e., qualified for free or reduced-price lunch). All but one teacher reported English as the primary language of instruction in their classroom.

Fifteen teachers participating in the pilot study were included in the present study (see Table 1 for demographic information). Participating teachers predominately identified as Black or African American (53%) and female (80%). On average, they had eight years of teaching experience (range: 0.5–23). The highest level of education for most teachers was a bachelor's degree (67%). Only five teachers (33%) reported participating in PD opportunities related to reading instruction prior to being interviewed and surveyed. Although the teachers in our sample are required to attend state-mandated trainings (Reading Academies) to support their knowledge and implementation of evidence-based reading practices, they have until the end of 2022–2023 academic year to do so. When teachers were interviewed and surveyed in the Fall of 2021, only two of the fifteen (13%) reported having already attended the Reading Academies.

Data collection and analysis

The 15 teachers participated in semi-structured videoconference interviews and completed teacher knowledge surveys. The interviews were conducted by the first and second authors in October 2021. The purpose of the interviews was to better understand how teachers perceived their abilities to provide reading instruction to students with RDs. Semi-structured interviews are commonly used as a flexible approach to gather this sort of in-depth information about participants' perceptions (Creswell & Poth, 2017). Instead of prompting teachers to simply rate their level of confidence, as one might for a survey, the use of semi-structured interviews allowed us to engage in conversations with teachers so that we could

Table 1. Teacher information.

	Gender	Hispanic	Race	Number of Years Teaching K*	Total Number of Years Teaching*	Highest Level of Education Completed	Previous PD	TSELI Survey Rating	BLC Survey Score
T1	F	N	B/AA	0	3.5	B	None reported	7.71	63%
T2	M	N	B/AA	3	11	B	None reported	9.00	50%
T3	F	Y	AI/AN	1.5	1.5	B	None reported	6.65	63%
T4	F	N	W	10	11	M	Neuhaus Reading Readiness	8.65	82%
T5	F	N	W	7	10	B	Reading Academy	7.35	89%
T6	F	Y	NR	13	23	B	None reported	6.53	92%
T7	NR	NR	NR	NR	NR	NR	Reading Academy	8.53	63%
T8	F	N	B/AA	1	8	B	None reported	8.41	18%
T9	F	Y	NR	2	8	B	None reported	8.76	29%
T10	F	N	B/AA	0.5	0.5	M	School/District Provided	6.06	47%
T11	F	N	B/AA	0.5	1.5	B	None reported	6.41	58%
T12	F	Y	B/AA	3.5	5.5	B	None reported	7.82	74%
T13	F	N	B/AA	NR	NR	B	School/District Provided	8.76	71%
T14	F	N	B/AA	1.5	5.5	M	None reported	7.00	61%
T15	M	Y	W	0	15	M	None reported	9.00	39%

Note: F = female; M = male; NR = no response; N = no; Y = yes; B/AA = Black or African American; AI/AN = American Indian or Alaska Native; W = White; K = kindergarten; * = teachers were asked to report how many years they had taught, counting the study school year, and to provide the number to the nearest half year; B = Bachelor's degree; M = Master's degree; PD = professional development; TSELI = Teachers' Sense of Efficacy for Literacy Instruction (Tschannen-Moran & Johnson, 2011); BLC = Basic Language Constructs (Binks-Cantrell et al., 2012).

ask follow-up questions or provide probes that encouraged teachers to elaborate on their responses. Table 2 represents some of the questions that were asked during the interviews as well as potential probes that were used. Note that, during these interviews, questions about confidence enabled us to gather information about teachers' self-efficacy beliefs.

After completing their interviews, teachers were asked to complete the Teachers' Sense of Efficacy for Literacy Instruction (TSELI) survey (Tschannen-Moran & Johnson, 2011), which has an internal consistency reliability estimate of .96. The TSELI survey required teachers to respond to 17 items related to their efficacy providing literacy instruction on a nine-point Likert scale (where 1 = not at all and 9 = a great deal) by considering the combination of their current ability, resources, and opportunity in their present position. Teachers also completed the Basic Language Constructs (BLC) teacher knowledge survey (Binks-Cantrell et al., 2012). The BLC survey is a 38-item measure of teacher knowledge of basic language constructs central to teaching reading (e.g., knowledge of phonology, phonics, and morphology; skill when performing language analysis tasks). In a validation study of the teacher knowledge survey, Binks-Cantrell et al. (2012) reported an internal consistency reliability estimate of 0.90. Note that these surveys did not focus on teaching students with RDs, but rather sense of efficacy and knowledge for providing reading instruction broadly. The survey data were analysed descriptively.

The 15 teacher interviews were audio recorded and transcribed. Transcriptions were analysed thematically by the first and second authors. Thematic analysis is commonly used to analyse experiences and perspectives of research participants (Braun & Clarke, 2006). We used a priori domains from Atkins et al.'s (Atkins et al., 2017) Theoretical Domains Framework (TDF) to deductively code the teacher interviews. The TDF is an implementation science-based framework that provides a comprehensive list of factors related to behaviour change (e.g., beliefs about capabilities, environmental context and resources) to help identify determinants of use of evidence-based practices (Damschroder et al., 2022). Both coders independently analysed each interview; discrepancies were resolved via discussion and consensus. By comparing teachers' responses to the question 'How confident do you feel about your abilities to teach your students with reading difficulties?' and follow-up probes, we were able to identify patterns, or themes, in the data and explore differences in teachers' self-efficacy beliefs (Research Question 1) as well as factors they perceived as barriers to and facilitators of their sense of efficacy (Research Question 2). Table 3 provides examples of how TDF domains were used to analyse teacher interview responses and identify themes. The following sections examine the themes that were identified in the data.

Table 2. Sample interview questions and potential probes.

Question	Potential Probes
How do you teach early reading skills to your students with reading difficulties?	Can you tell me more about that? What do you do differently for students who are having difficulties learning to read?
How confident do you feel about your abilities to teach your students with reading difficulties?	Can you tell me more about that? Why do you (not) feel confident teaching them? Do you feel like there may be further support or training that could help you in supporting your students who are having difficulties learning to read?

Table 3. Examples of using the theoretical domains framework to analyze interview data.

TDF Domain	TDF Definition	Interview Example	Assigned Theme
Beliefs about capabilities	Acceptance of the truth, reality or validity about an ability, talent or facility that a person can put to constructive use	'I actually feel very confident with the struggling students' (T4)	Variability in self-efficacy
Emotion	A complex reaction pattern, involving experiential, behavioural, and physiological elements, by which the individual attempts to deal with a personally significant matter or event	'Just seeing their growth makes me happy and makes them happy.' (T9)	Facilitator: capacity to notice and celebrate student growth
Environmental context and resources	Any circumstance of a person's situation or environment that discourages or encourages the development of skills and abilities, independence, social competence and adaptive behaviour	'I just try my best with the resources I have already' (T5)	Barrier: resources and time
Knowledge	An awareness of the existence of something	'Sometimes I just feel like I've kind of run my gamut... I've done this. I've done this. I've done this. Well, what else can I do?' (T5)	Barrier: teacher knowledge and skills
Skills	An ability or proficiency acquired through practice	'I would say once again I just need more practice' (T3)	Barrier: teacher knowledge and skills

Note: TDF = Theoretical Domains Framework (Atkins et al., 2017).

Results

Research question 1: how do kindergarten teachers describe their self-efficacy in providing reading instruction to students with RDs?

Based on teachers' responses to 'How confident do you feel in your abilities to teach your students with reading difficulties?,' we identified a theme around the variability in teacher self-efficacy to teach students with RDs. Only one teacher reported *not feeling confident* providing reading instruction to students with RDs. She shared, 'I think I do struggle with that because I feel some of the stuff is overwhelming and I feel maybe some difficulty in motivating them and having them want to take ownership of what's happening' (T6). She also expressed not feeling confident 'mainly because of what's expected' of her and her students from the administration at her school (T6). Most teachers indicated they were *somewhat confident* and had responses that ranged from a relatively basic level of self-efficacy (e.g., 'I feel somewhat confident, not completely, but somewhat confident' [T12]) to the more certain statement that 'I feel confident' (T7). Four of the 15 teachers expressed *strong feelings of confidence* with statements, such as 'I actually feel very confident with the struggling students' (T4). One teacher explained that she is 'super confident in teaching them' and feels like her 'strength' lies in teaching the 'foundation of reading' to 'emergent readers' (T14). One teacher, despite not having been prompted to provide a numerical value, said, 'I'm pretty confident. I think a 10 [out of 10]' (T11).

Another theme identified from the data was teachers feeling more confident teaching reading to students with RDs compared to their typically developing peers. For example, one teacher shared, 'I feel more confident with struggling readers than I do with the higher readers' (T15). Another said she felt 'very confident' teaching her students with RDs and noted that her 'high readers' are the students who 'throw' her (T8). One teacher shared a similar sentiment when she explained, 'I feel the least confident with my more advanced kiddos. I always wonder like "where do I take [them] next?"' (T4). Another teacher displayed high self-efficacy in her teaching abilities when she stated, 'with my early babies I feel very confident in knowing like they're here [hand down low] and my abilities can get them up here [hand up high]' (T13).

Research question 1a: how does self-efficacy for teaching students with RDs relate to ratings of sense of efficacy for providing literacy instruction generally?

On average, teachers rated their self-efficacy for teaching reading to students generally as high ($M = 7.79$; range: 6.06–9.00). The one teacher who reported *not feeling confident* teaching students with RDs also rated her sense of efficacy for providing literacy instruction generally in the lower range ($M = 6.53$). However, there was no meaningful distinction in teacher ratings of efficacy for providing literacy instruction generally between the teachers who described themselves as *somewhat confident* and those who described themselves as *very confident* teaching reading to students with RDs. These groups had average ratings of 7.96 and 7.62, respectively. Notably, the five teachers who reported feeling more confident teaching reading to students with RDs than to their typically developing peers rated their sense of efficacy for providing literacy instruction generally in the higher range ($M = 8.36$).

Research question 1b: how does self-efficacy for teaching students with RDs relate to knowledge to teach reading?

On average, teachers answered 60% of items correctly (range: 18%-92%) on the survey of teacher knowledge of basic language constructs central to teaching reading. Again, there was no meaningful distinction in teacher knowledge scores between the teachers who described themselves as *somewhat confident* and those who described themselves as *very confident* during the interviews. These groups had average scores of 59% correct and 55% correct, respectively. Further, one teacher who reported feeling 'very confident' providing reading instruction to students with RDs (T8) actually had the lowest score (18% correct) on the teacher knowledge survey, and the only teacher who reported not feeling confident (T6) scored the highest (92% correct). Lastly, there was also no discernable pattern distinguishing teacher knowledge scores for the five teachers who reported feeling more confident teaching reading to students with RDs than to their typically developing peers. These teachers answered an average of 54% of the items correctly (range: 18%-82%).

Research Question 2: what factors do kindergarten teachers perceive as barriers to and facilitators of self-efficacy in teaching students with RDs?

Barriers

Several barriers to kindergarten teacher self-efficacy in teaching students with RDs were identified from the data. One theme revolved around **student behaviours**, including a lack of attention, engagement, and motivation. One teacher expressed feeling that he has 'too many' students and that they are 'not getting it because they're distracted' (T2). As previously mentioned, another teacher similarly noted difficulty in 'motivating' her students with RDs and in 'having them want to take ownership of what's happening' (T6). One teacher described having difficulties with a particular student. She noted that his 'attention span is so short' and that he has behaviour issues which 'disturbs the whole class' (T10). She also mentioned that he has 'had a lot of family issues going on' and is not always in school (T10).

Another perceived barrier to teacher self-efficacy in providing reading instruction to students with RDs was a lack of **teacher knowledge and skills**. One teacher explained Sometimes I just feel like I've kind of run my gamut... I've done this. I've done this. I've done this. Well, what else can I do?... Trying to find different approaches that they're actually gonna get and understand. (T5). Another teacher, when discussing a particularly challenging student, admitted, 'I'm just lost with him. I need help' (T10). Further, one teacher discussed how being a new kindergarten teacher posed a challenge for her. She had previously taught second grade and it was her first year teaching kindergarten. She shared that the 'lack of confidence' she feels 'is only because it is kindergarten so it's not as quick as second grade' where she previously taught (T1). Another first-year kindergarten teacher noted a similar concern: 'It's all new to me. I just want to make sure that I'm focusing on the right strategies and skills to do with them' (T3). She also noted feeling like she just needs 'more practice' working with students with RDs (T3). Results from our teacher knowledge survey supported the emergence of this theme related to some teachers' lack of knowledge and skills. In particular, survey results showed that teachers answered an average of 60% of the items correctly (range: 18%-92%), indicating that knowledge for teaching reading was moderate on average (while also varying widely) in our sample of teachers.

Further, several teachers discussed not having the **resources and time** to feel confident in teaching students with RDs. One teacher explained that she has not 'really researched what else is out there' and uses the resources 'the district provides [her] with' (T5). She said, 'I just try my best with the resources I have already' (T5). Notably, this is the same teacher who reported sometimes feeling like she has 'run [her] gamut' and does not know what else she can do to support her students with RDs (T5). Additionally, when describing how she tries to meet her students' needs in the moment, one teacher mentioned, 'but we only have so much time, right? And so, I can't just stay on this forever' (T13). Another teacher pointed out, 'It's not about not being confident. It's [about] having the time to give them the extra time that they need... it would be very helpful if there were people coming in pulling them out and giving them the extra time or what I would be giving them, but we don't have that' (T7).

Lastly, teachers discussed the **emotional challenges** they perceived as being associated with working with students with RDs. One teacher ventured that teaching students with

RDs becomes 'a lot' for some teachers and noted that 'they can get really frustrated because you're like "how many times do I have to say the same thing before you get it?"' (T14). As previously mentioned, another teacher similarly expressed feeling that 'some of the stuff is overwhelming' and that she experienced 'difficulty in motivating' her students with RDs (T6). She also perceived that there was 'always' a 'panic' around if they will 'make their goal' (T6). She shared that she values celebrating her students' 'success and growth,' but 'it seems like they want more' referring to the administration at her school (T6).

Facilitators

We also identified several facilitators to kindergarten teacher self-efficacy in teaching students with RDs. One theme revolved around **specific characteristics that were important for teachers to possess** when working with students with RDs. For example, one teacher said, 'you have to understand the whole child' and that 'there's a special kind of patience that you have to have' (T14). Similarly, one teacher explained, 'I feel like I'm a really great teacher for them because I'm patient' (T2).

Teachers also perceived that their own **capacity to notice and celebrate student growth** facilitated their confidence in teaching students with RDs. One teacher noted that she does 'see progress' in her students with RDs (T13). She provided an example of when they were 'able to get it fairly quickly' after the teacher 'adjusted the way that [she] was teaching it at first' (T13). Further, one teacher shared, 'I love helping my little babies because watching them go from here [hand down low] to like here [hand up high] is amazing' (T8). Another teacher explained, 'I see them as little people who are showing growth and that to me is the exciting part; that they're going to get there, and they just need that extra' (T6). Similarly, one teacher said, 'just seeing their growth makes me happy and makes them happy' (T9).

Additionally, several teachers expressed confidence in their abilities to increase their students' knowledge and skills because of their **teaching experience**. For example, one teacher stated 'with my lower babies I know that because I've always had a low class. I'm like with that I know I can do that' (T8) and another said, 'I feel like my strength lies in the foundation of reading with the emergent readers' (T14). Lastly, one teacher perceived her **support system** at her school as a facilitator to her confidence in teaching students with RDs. She said, 'My staff co-workers who have been doing kindergarten for four or five years, they're great... I have great support here, so I'm confident' (T11).

Discussion

The purpose of this study was to explore kindergarten teachers' self-efficacy beliefs related to providing reading instruction to their students with RDs. It also aimed to better understand the barriers to and facilitators of kindergarten teachers' self-efficacy beliefs in order to gain insight into ways to cultivate stronger self-efficacy beliefs related to reading instruction. Overall, kindergarten teachers in the present study reported a moderate to high level of self-efficacy in providing reading instruction to students with RDs, with only one teacher sharing her feelings of low self-efficacy. In fact, teachers often reported feeling more confident teaching students with RDs than teaching their typically developing or above-average peers. This finding was unexpected given that previous

research (Bos et al., 2001; Washburn et al., 2011) suggests that teachers' perceived preparedness and ability to teach students with RDs was lower than that for the general population of students. Although teachers in this study generally showed moderate to high self-efficacy for teaching students with RDs, it is important to note that our teacher survey data showed that knowledge of constructs central to teaching reading was moderate on average. This finding aligns with prior studies showing that teachers often report higher self-efficacy beliefs than their demonstrated knowledge would seem to warrant (Cohen et al., 2017; Cunningham et al., 2004; Spear-Swerling et al., 2005).

Themes identified in the data mostly focused on barriers to rather than facilitators of teacher self-efficacy (i.e., teachers most often chose to talk about barriers to instead of facilitators of their self-efficacy for teaching students with RDs). The findings align with Bandura's Social Cognitive Theory (Bandura, 1977) and previous research (Fackler & Malmberg, 2016; Fackler et al., 2021), which suggests that teachers' self-efficacy is influenced by factors in their classrooms and schools. In particular, teachers often discussed (a) student behaviours, including a lack of attention abilities, engagement, or motivation; (b) gaps in their own knowledge and skills; (c) not having resources and time; and (d) emotional challenges of working with students with RDs as barriers to their self-efficacy. For the most part, these findings are not unexpected given that students with RDs are at a greater risk for behaviour and attention problems (Dahle & Knivsberg, 2014; Willcutt et al., 2010) and given that teachers often feel unprepared to teach students with RDs (Bos et al., 2001; Washburn et al., 2011) or manage challenging behaviours (Klassen & Chiu, 2010). Additionally, our survey data demonstrated that our teachers' knowledge of constructs central to teaching reading varied. However, that no teachers stated feeling a lack of confidence in teaching students with RDs as a result of their training or lack thereof (e.g., deficits in teacher preparation programs or insufficient PD opportunities) contrasts with findings reported in previous research (Maloch et al., 2003; Timperley & Phillips, 2003) and is surprising given the lack of previous professional development reported by our teachers. Further, teachers' self-efficacy did not appear to vary according to education level. For example, both teachers with bachelor's (e.g., T8, T13) and master's degrees (e.g., T4, T15) appeared to feel more confident teaching students with reading disabilities than they did teaching students reading above grade level. However, teachers who provided strong statements of confidence appeared to have more years of teaching experience. For example, only one teacher who provided a strong statement of confidence had less than two years of teaching experience (i.e., T11). Notably, this same teacher stated she had a strong support system of experienced teachers. Overall, this finding aligns with previous research which suggests that self-efficacy increases with years of teaching experience (Klassen & Chiu, 2010).

Teachers described four primary facilitators of their self-efficacy for teaching students with RDs. First, a couple of teachers briefly mentioned specific characteristics that they believe are important for teachers to possess (e.g., patience). Next, some teachers explained that witnessing their students make progress was fulfilling and increased their confidence in their abilities to teach students with RDs. Third, some teachers expressed beliefs that they had the knowledge and skills needed to help their students with RDs; they did not explicitly state how they had acquired their knowledge and skills. Finally, one teacher mentioned that the support system at her school helped her feel confident in delivering reading instruction to students with RDs.

Limitations, implications, and directions for future research

A few limitations to this study should be noted. First, the participant sample was relatively small and limited to kindergarten teachers already participating in a pilot study of a reading intervention in an urban metropolitan area. Thus, the generalisability of these findings may be limited to teachers with similar characteristics. Additionally, the data collection method utilised in the present study was semi-structured interviews, which has strengths and weaknesses. Although semi-structured interviews are commonly used as a flexible approach to gathering information about participants' perceptions, this interview method inherently lacks the rigorousness of structured interviews (Creswell & Poth, 2017). Therefore, we did not ask all participants the exact same questions or prompt them to elaborate on their responses in the exact same way. It is also worthy of note that our interview protocol did not include specific questions about barriers to and facilitators of self-efficacy. Instead, we encouraged teachers to elaborate on their responses in order to explore the barriers and facilitators that would emerge naturally in conversations with them, which may limit reliability and parity. Lastly, this study occurred during the COVID-19 pandemic. Recent research shows that teachers reported a high percentage of symptoms related to stress, anxiety, and depression during this time (Santamaría et al., 2021).

Given that most of the teachers in our sample reported moderate self-efficacy and several barriers were identified, it is important to explore the practical implications of our findings. The main implications are related to training and support that teachers receive. Results suggest it may be worthwhile to provide teachers with more opportunities to gain knowledge and skills related to providing reading instruction to students with RDs in order to increase their self-efficacy beliefs. For example, attending training sessions specifically focused on teaching reading to students with RDs (not just teaching reading broadly) might mitigate some teacher concerns around not knowing 'what else' to do to help students with RDs understand the concepts being taught. Additionally, given that teachers perceived student behaviour issues, including a lack of attention, engagement, and motivation, as barriers to feeling efficacious and the research shows students with RDs are at a greater risk for behavioural difficulties (Dahle & Knivsberg, 2014; Willcutt et al., 2010), it may be worthwhile to consider providing training on effective behaviour management practices as well. Teachers may also demonstrate higher levels of self-efficacy for teaching students with RDs if they are provided with enough time to consistently use them with their students with RDs (e.g., if schools implement schedules that include time for small-group reading instruction). Lastly, our findings show that teachers may benefit from having a strong support system within their schools and receiving mentoring from more experienced teachers.

Overall, this study demonstrates that kindergarten teachers experience a moderate to high level of self-efficacy in providing reading instruction to students with RDs. Examination of the barriers to and facilitators of self-efficacy that teachers report may be crucial in cultivating stronger teacher self-efficacy beliefs related to reading instruction for students with RDs. However, the present findings should be considered exploratory rather than conclusive. The field would benefit from future research studies that incorporate a larger, more diverse sample of participants. Further, the addition of student-level performance data could allow for more sophisticated data analysis, such as exploring associations between teacher self-efficacy for teaching students with RDs and student reading achievement.

Disclosure statement

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